

CS 3005: Programming in C++

Spring 2024 Schedule

Day	Topic	Work Due
Jan 8	Week 1	
Jan 12		Hello
W01	Compiled Languages (Compilers, Linkers, Makefiles)	
W01	Source Control (git basics)	
W01	Computer Systems (Input/Output)	
W01	Computer Systems (CPU, Memory)	
W01	Statically/Strongly Typed Variables	
W01	Functions	
Jan 16	Week 2	
Jan 16	<i>Martin Luther King Jr. Day</i> (no classes)	
Jan 19		Questions 3
W02	Control Structures	
W02	Classes (Data members, Methods)	
W02	Linear data sequences	
W02	Colors, Pixels, Images, Portable Pixmap (PPM)	
W02	Files	
Jan 22	Week 3	
Jan 24		ASCII Image
W03	I/O operators, overloading	
Jan 29	Week 4	Image File
Jan 31	Practice Examination 1	Practice Exam 1
Feb 2	Examination 1	Exam 1
W04	Drawing shapes with pixels	
W04	Conditional statements	
W04	Loops	
W04	Debugging	
Feb 5	Week 5	
Feb 7		Action Data and Menu Data
W05	Image Filters	
W05	Memory model: Stack, Heap, Static, ...	
W05	Memory Checking	
W05	Variable Scope	
W05	Pointers, References, Arrays, Indexing	
Feb 12	Week 6	
Feb 12		PPM Menu
Feb 16		PPM Operators
W06	Image Operations	
W06	Operator Overloading	
W06	Makefiles	
W06	Function Pointers	
Feb 19	Week 7	
Feb 19	<i>President's Day</i> (no classes)	
Feb 23		Image Filters
W07	Recursion	
W07	Debugging Better	
W07	Random Numbers	
W07	The NumberGrid	

Feb 26	Week 8	
Feb 26	Practice Examination 2	Practice Exam 2
Feb 28	Examination 2	Exam 2
W08	Inheritance	
W08	Polymorphism	
W08	Virtual Table	
W08	Grid points in a plane	
Mar 4	Week 9	
Mar 4		<u>Number Grid</u>
Mar 8		<u>Color Table</u>
W09	Julia Sets	
Mar 11-15	<i>Spring Break</i> (no classes)	
Mar 18	Week 10	
Mar 20		<u>Complex Fractal</u>
W10	The Mandelbrot Set	
W10	Templates	
W10	Standard Template Containers	
W10	Standard Template Algorithms	
W10	Color Tables	
Mar 25	Week 11	
Mar 25		<u>Julia Set</u>
Mar 29		<u>Mandelbrot Set</u>
W11	Threads of Execution	
Apr 1	Week 12	
Apr 1	Practice Examination 3	Practice Exam 3
Apr 3	Examination 3	Exam 3
W12	Debugging Even Better	
Apr 8	Week 13	
Apr 8		<u>Threaded Grid</u>
Apr 12		<u>GUI 1</u>
W13	Command Line Arguments	
W13	Source Control Branches	
Apr 15	Week 14	
Apr 19		<u>GUI 2</u>
W14	Exceptions	
W14	Preprocessor	
W14	Makefiles	
Apr 22	Week 15	
Apr 22	Practice Examination 4	Practice Exam 4
Apr 24	Examination 4	Exam 4
Apr 25	<i>Last Day of Classes</i>	
Apr 29-May 2	<i>Final Exams</i>	
Apr 29	Final Exam 9:00 am - 10:50 am	Final Exam

Class announcements may modify schedule from that listed above.